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AUTHOR Maratsos, Michael P.
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ABSTRACT

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How Preschool Children Understand Missing Complement Subjects

Michael P. Maratsos

University of Minnesota

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How Preschool Children Understand

Missing Complement Subjects

Abstract

Preschool children's comprehension of the missing subject of infinitival complement clauses was investigated in two studies. In the first study, use of a Surface Structure Minimal Distance Principle of the type outlined by C. Chomsky was distinguished from use of a Semantic Role Principle. Preschool children acted out sentences in which the use of the two principles would lead to different results. The results strongly favored their having adopted the Semantic Role Principle. In the second study it was found that situational relations among lexically unspecified acotrs were also inadequate to explain preschool children's performances. The hypothesis adopted was that as children use contextual information to interpret the reference of missing complement subjects, they relate this interpretation to semantic role relations among the lexically specified deep structure NPs of the main clause.

Complement sentence clauses are sentences embedded in other sentences which fulfill a grammatical function in the sentence in which they are embedded. Consider the following sentence pairs:

(1) John told Margaret a story.

John told Margaret that Sam would leave.

(2) The dog bothered Sam.

For John to twiddle his thumbs bothered Sam.

In each pair the underlined parts fulfill the same grammatical function. In the first member of the pair the function is fulfilled by a regular noun phrase (NP). In the second member the function is fulfilled by a complement clause with full sentential structure, in that the clause has its own subject and verb phrase.

In her study The Acquisition of Syntax from 5 to 10 Chomsky (1969) takes up the problem of children's understanding referential relations in complement clauses which lack overt subjects. The problem arises in sentences like:

(3) John told Bill to leave.

(4) John persuaded Bill to leave.

As Chomsky notes, "In each of these Ss the subject of the infinitival complement verb leave is not expressed, but must be filled in by the listener. In order to understand these Ss he must be aware that the implicit subject of leave is Bill in each case. Although two candidate noun phrases (NPs) are present in the main clause, John and Bill, the listener must know to select Bill as complement subject (Chomsky, p. 9)." The rule proposed by Chomsky to handle interpretation of sentences of this (and other) type(s), in which the infinitival verb lacks an overt subject, is that "the implicit subject of the

complement verb is the NP most closely preceding it" (Chomsky, p. 10), a principle called by Chomsky the Minimal Distance Principle. As she notes, this rule applies very generally in English, as in sentences like John {asked, encouraged, forced, enticed, compelled, ordered, selected} Bill to leave. It also applies to sentences with only one main clause NP, such as John {begged, asked, preferred, chose} to leave. In all these cases, the missing subject of the infinitival complement verb is understood to be the main clause NP nearest to it.

Sentences with promise as the main clause verb constitute an exception to the MDP (Minimal Distance Principle) as stated. Sentences (5) and (6) have the same surface structure, but in (6), John is understood to be the subject of the complement verb leave, even though the NP Bill is closer.

(5) John told Bill to leave.

(6) John promised Bill to leave.

Chomsky hypothesized that promise, forming as it does an exception to a highly general rule of referential interpretation, would cause difficulties for children learning English. In particular, younger children should interpret promise sentences like (6) in a manner like (5), understanding them as saying that the closest NP, Bill, is the subject of leave. Chomsky indeed found that children make errors in acting out promise sentences as late as eight years of age, while having little trouble with tell sentences like (5).

We will call this MDP a Surface Structure MDP: for it employs inspection of the surface structure of the sentence to determine what main clause NP is closest to the infinitival verb and so determine the subject of the infinitive. It is clear that even for regular main clause verbs such as tell, a Surface Structure MDP is inadequate.[2] Compare sentences (7) and (8):

(7) John told Bill to leave.

(8) Bill was told by John to leave.

In (8) even though John is closer to the complement verb leave, Bill is understood to be the subject of leave, just as in (7). Modern linguistics offers various descriptions of this constancy (Rosenbaum, 1967; Postal, 1970; Jackendoff, 1972). The account we shall offer here follows from recent work (Jackendoff, 1972), and employs deep structure semantic relations as described recently in work by Fillmore (1968, 1971) and Gruber (1965). These authors have proposed that all human languages employ general role relations among the NPs of sentences. relations such as agent, source, object, experiencer, and goal. For verbs which depict actions of speaking (such as tell, ask, promise, and beg), the main semanti roles can be described as those of a source, a goal, and an object. In general, whenever in a situation something can be described as moving from one place or location to another, the entity being moved or transferred is to be called the semantic object (Fillmore's 1971 terminology is followed here): the location or actor from which the object moves is the source, and location or actor towards which it moves is the goal. In a sentence such as The news went from Paris to London, the news comprises the semantic object, Paris describes the source, and London describes the goal. Similarly, in the sentence John told Bill to leave, it is the order to leave that is transferred, and so is the object of the sentence. The order comes from John, who is the source, and goes to Bill, who is thus the goal. Now consider again the sentences (7) and (8):

(7) John told Bill to leave.

(8) Bill was told by John to leave.

In both cases, despite the surface structure differences, Bill is the goal of the order, and John is the source. For most verbs of speaking, such as tell,

advise, request, beg, order, command, and persuade, it is the goal of the speaking action--the one to whom the communication is delivered--that supplies the missing subject reference of complement infinitive verbs. The verb promise constitutes an exception to this generalization just as it does to the Surface Structure MDP. In promise sentences, the source of the promise supplies the complement subject reference, not the goal. In John promised Bill to leave, the source John is the subject of leave, not the goal, Bill.

Clearly, erroneously responding subjects in Chomsky's study could have based their responses either on the Surface Structure MDP, or on a Semantic Role Principle (as it will be called) as outlined above. From the types of sentences Chomsky employed in her study, it is not possible to choose between the two accounts. Both principles result in the correct interpretation of active voice sentences with regular main verbs such as ask and tell; both result in the misinterpretation of sentences with promise as a main verb. Choosing between the two requires the use of sentences in which the main clause NPs do not occupy normal active positions sentences like John was told by Bill to leave. Since Bill is closest to the complement verb leave in surface structure, the use of a Surface Structure MDP would lead to the interpretation that Bill is to leave. In contrast, since John is the goal of the main clause just as he is in Bill told John to leave, use of the Semantic Role Principle should result in correct choice of the complement actor. To decide between the two hypotheses, in Experiment I, preschool children were given three kinds of sentences to act out: 1) active sentences with promise as main verb; 2) active sentences with ask and tell as main verbs; 3) passive sentences with ask and tell as main verbs.

EXPERIMENT I

Method

Subjects

The Ss came from an original pool of 33 four-year olds and 13 five-year olds from the Bloomington nursery school and 12 five-year olds from the University of Minnesota nursery school. After pretesting to be described below, the experimental sample consisted of 20 four-year olds and 10 five-year olds from the Bloomington school and 10 five-year olds from the University of Minnesota school. Backgrounds of the Ss ranged from working through middle class.

Procedure

Each S was first given experience acting out simple active sentences (such as The dog jumped over the boy), using small toys. The E continued until S seemed comfortable with the general procedure of acting out spoken sentences, usually a matter of two or three sentences.

The Ss then entered a period in which they were pretrained to act out the speaking action of the ask, tell, and promise sentences. In pilot work it was found that when they were given sentences such as Bill asked Harry to go, preschool children would nearly always act out the complement verb action (go in the last example), and not the action of speaking. But for a clear interpretation of the results it is vital to know who the children think did the speaking. Young children often comprehend passive sentences as actives (Fraser, Bellugi, & Brown, 1963; Bever, 1970). If a child hears a passive like John was told by Bill to leave as though it were the active sentence John told Bill to leave, he will have Bill leave (erroneously), regardless of whether he uses a Surface Structure MDP or a Semantic Role Principle. The question of what principle the child is using has a clear answer only if he correctly understands the passive

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main clause, and then acts out the complement verb action. Accordingly, a pretraining procedure was devised to ensure that children became used to acting out both the main clause speaking action and the complement clause action.

The pretraining sequence always started with the following dialogue from E: "Here are a boy and girl. See, the boy has a green hat. Show me, the boy tells the girl 'I have a green hat.'" If S had trouble understanding what was wanted, E demonstrated the required sequence of actions, and then repeated the sentence for the S to attempt once more. In these initial pretraining sentences, the only action involved was the speaking action. Furthermore, the quote employed could only apply to one of the characters. For example, in the context for "The boy tells the girl 'I have a green hat'," only the boy had a green hat. These sentences, then, were designed to involve minimally hard speaking actions. Another factual sentence was then given, "The girl tells the boy 'I don't have a hat.'" It was left to E's discretion to determine when the child was ready for the next pretraining phase.

In the next phase, four sentences were used which employed the matrix verbs ask and tell as well. In these sentences, however, an action which could be performed by either speaker or listener was requested. The sentences are printed below.

(9) Show me, the boy asks the girl, 'Would you go away?'

(10) Show me, the boy asks the girl. 'Can I go away?'

(11) Show me, the girl tells the boy, 'I'll slide down the hill.'

(12) Show me, the girl tells the boy, 'You'll slide down the hill.'

Each S received the four sentences in the same order. In these sentences there is no strict association between the identity of the actor who does the speaking and the actor who acts out the requested action. The speaker is the same as the

subject of the action verb in sentences (10) and (11), and is different in sentences (9) and (12). The intention was to remind S that there is no necessary association between the two roles.

If S now appeared to have any problems in acting out these sentences, E demonstrated the sequence of actions for a given sentence, and then asked S to attempt the sentence once more. Clearly the most desirable response was for S to have one of the actors speak the sentence involved overtly before having the request acted out. Man Ss performed in this manner; others, however, indicated the speaker by actions such as having him bend towards the other actor. This was also accepted as an acting out of the speaking action. One four-year old was discontinued at this point in pretraining.

The S was now given three simple passive sentences to act out as a pretest; it was thought that Ss who could not act out simple passives should not go on to the ask and tell passives. The sentences were:

The boy is bumped by the dog.

The boy is pushed off by the girl.

The turtle is pushed by the dog.

The Ss who acted out two or three of these correctly passed on to the experimental sentences. Twenty-five five-year olds and thirty-two four-year olds were pretested in obtaining the desired numbers of twenty five-year olds and twenty four-year olds for the experimental phase.

The experimental sentences consisted of two active sentences with promise as main verb, two active sentences with ask and tell as main verbs, and two passives with ask and tell as main verbs. Four sets of sentences were employed: one of these is given below:

The bear is told by the elephant to get in.

The monkey promises the dog to jump off.

The turtle tells the elephant to get out.

The daddy is asked by the mommy to get in.

The girl asks the boy to sit down.

Mary promises John to go away.

Another set was derived by reversing the actors in each sentence. For example, the bear is told by the elephant to get in became the elephant is told by the bear to get in. The final two sets were derived by presenting the first sets in reverse order.

Before giving each sentence, E introduced S to the toys involved by naming each one. Each sentence was carried out in a context making it sensible. For example, the bear is told by the elephant to get in was told with a toy car present. The E said, "Now, one of these animals is going to get in the car. The bear is told by the elephant to get in." After each response of S's, E said,"Good," and marked the S's chosen actors on a response sheet.

Despite the pretraining, occasionally an S did not indicate who had performed the asking or telling action in his response. In such cases E let the child finish acting out the complement verb action, and then asked S "Who told?" or "Who asked?" as needed.

Results and Discussion

As already discussed, both the Surface Structure MDP and the Semantic Rose Principle predict that preschool children should act out the active ask and tell sentences easily, and should have difficulty with promise sentences. These predictions were substantiated. The Ss acted out the active ask and tell sentences with an accuracy of .98--only two errors were made in eighty choices of complement verb actor. In contrast, the correct complement verb actor in promise sentences was chosen just .18 and .25 of the time by the four- and five-year olds respectively.

The major results of interest, however, were the children's responses on the passive ask and tell sentences. In particular, choices of complement verb actor were crucial only if the passive main clause was understood correctly. The children's acting out of the speaking actions showed that the passive main clause was understood correctly in 50 instances (20 of these instances came from 13 four-year olds, and 30 came from 16 five-year olds). In these 50 instances, the complement actor was then chosen correctly 48 times. That is, given a sentence like the bear is told by the elephant to get in, if the S understood correctly that the elephant was the source of the command and the bear was the goal, he understood that it was the bear that was to perform the complement clause action; similarly for the ask passives. Incorrect choices of complement verb actor virtually always occurred just when the S had misunderstood the passive main clause to be an active. The results clearly favor the Ss' having used a Semantic Role Principle rather than a Surface Structure MDP.

The results of Experiment I modify the picture conveyed by Chomsky's original results. Her work was widely interpreted as indicating (cf. footnote 2)

that young children are strongly influenced in their choice of missing complement subject by the surface structure distance of NPs from the infinitival verb, a very strong limitation indeed. In the context of the results reported here, children's freedom from surface structure relations appears marked early on.

The results also bring up an interesting question: why not a Surface Structure MDP? A surface Structure MDP comprises quite a reasonable candidate for acquisition. The Surface Structure MDP and the Semantic Role Principle produce identical results in simpler sentences like John told Mary to leave, I asked you to wash up, or doesn't he want to leave? The kinds of sentences which would provide empirical evidence to the child for the choice of one principle over the other are complex utterances such as you were told by me to wash up or who did you tell to leave? As children learn infinitival complements they probably do not hear many such utterances.

The problem can perhaps be sharpened by consideration of a particular model of language acquisition. Braine (1971), an empiricist theorist, has offered a model in which the child has a processor which registers properties of incoming sentences. As a property turns up more and more often it is put into permanent store. But a property of probably nearly all infinitival complements heard by the child is that the understood subject of the complement verb is the main clause NP nearest to it. Braine's analysis of other problems makes it clear the analyzer could register such properties easily. The failure of a Surface Structure MDP to appear seems a clear case where the processor does not note a major class of plausible properties. But this amounts to saying that the processor is set to store some properties and not others; a processor with such strong preferences seems unempirical.

Experiment I, however, though limiting the range of explanations for young children's competence, naturally leaves many possibilities open. Experiment II examines the viability of a hypothesis which will be called here the Situation Role Theory. In all the sentences examined here, there has been a communicated request, order, or promise. The infinitive complement outlines the action talked about without specifying overtly who is to carry it out. One actor speaks to another about the action. For example, in the elephant is told by the bear to get in, to get in is the act spoken about, and the bear and the elephant are the teller and told respectively. Perhaps the controlling principle is something more purely semantic, or even situational, than semantic role relations among main clause NPs. Perhaps in such speech acts, when the doer of the requested action is left unspecified, it is always understood that the person spoken to is to perform the action. This is certainly true, for example, in simple orders and commands such as get in the truck. Such an hypothesis would explain all the results obtained so far, and perhaps has natural situational support in the child's experience.

The Situation Role Theory, so stated, is inadequate to explain adult competence in large numbers of instances. Consider the following sentence(s):

(13) John { asked, begged } to leave.

The action spoken about or transmitted is to leave. John is the speaker. And although no one is mentioned overtly, it is understood implicitly that someone is spoken to. If John asks to leave, by the semantic nature of ask, he must ask someone. Sentence (13) is nevertheless understood to mean that John is the intended subject of leave, no the unmentioned person who is asked or begged. In various linguistic descriptions (Fillmore, 1968, 1972; Jackendoff, 1972) ask and beg in these cases are understood to have implicit semantic

goals of the speaking act. They do not, however, have lexically specified deep structure NPs representing the person spoken to. It seems to be the presence or absence of such lexically realized deep structure goal NPs that is crucial here.

Interestingly enough, some verbs of communication must lexically specify the person spoken to, at least in some grammatical environments. The verbs tell, command, and persuade are such verbs. A sentence like John told to leave is slightly deviant, while the semantically similar John told someone to leave, which lexically specifies the person told, is not. Given deviant sentences like John told to leave, adult speakers understand them as though the required lexical specification of the goal NP were present--i.e., adults understand John told to leave to mean John told someone else to leave, as though it were the grammatical sentence John told someone to leave.

Although the Situational Role Theory as stated above fails as an explanation for adult speakers, children might still start out using such a theory. As derived to account for the results of Experiment I, the ~~Semantic~~ Situational Role Theory specifies that the person spoken to always carries out the communicated action, if there is no other specification. Accordingly, children should have some difficulty in their interpretation of objectless ask sentences; given a sentence like John asks to drive, they should have some tendency to misunderstand them as meaning that the person spoken to is to drive. Conversely, sentences such as John tells to drive, in which the proper interpretation is that the person spoken to does the driving, should cause little difficulty. Experiment II was designed to test these predictions.

EXPERIMENT II

Method

Subjects

The Ss were 24 children, aged 4-6 to 5-6, from the University of Minnesota Nursery School. The median age of the Ss was 4-9. The Ss were middle class in background.

Procedure

The general procedure was much as before. The E first accustomed the S to acting out simple sentences with toys. A pretraining period followed in which the S was trained to verbalize the speaking action. In this pretraining, the verb of speaking was neither ask or tell, however, but the more neutral verb say. The E started pretraining by saying "Here's John, and here's Mary, and here's a dog. They're going to say and do some things. First you watch, and I'll show you how it works, then you'll have a turn, too." The E then took out the appropriate toys, saying "John says to the dog, 'You're black!' O.K., now you can do it." After the S seemed comfortable with statements of fact, four sentences were presented in which the speaker was alternately the doer of the spoken action and the commander to do the spoken action:

John says to Mary, "I'm going to get in the truck."

John says to Mary, "You get in the truck."

Daddy says to Mommy, "You get in the car."

Daddy says to Mommy, "I'm going to get in the truck."

In all cases, there was another doll present to be spoken to. Testing then followed with the experimental sentences. The E gave the S the first two dolls, saying "Now here're John and Mary. We'll do it the same way. Remember to make them talk."

Each S then received ten experimental sentences. Group I received 10 sentences which had only ask as the main verb, with no overtly spoken object, and an infinitive complement. The first two sentences were John asks to sit down and Susie asks to get in the truck. Two boy-girl pairs of dolls were used, John and Susie, and Mary and Harry. Half the time the asker was a girl and half the time the asker was a boy. The pairs were always alternated between sentences. After the 10 experimental sentences, each S was given a last sentence with a specified grammatical object, Susie asks Harry to jump, to check that performance with such sentences was as before.

Group II Ss received a set of sentences which were identical except that the main verb was always tell instead of ask. The first two sentences, e.g., were John tells to sit down and Susie tells to get in the truck: the last sentence, with grammatical object, was Susie tells Harry to jump.

The E said "Good" after each acting out, and wrote down the S's response. Sessions were recorded with a Sony 110-A portable tape recorder.

Results and Discussion

Probably because of the very simple grammatical constructions of the experimental sentences, the Ss had very little trouble choosing the correct speaker. Only two such errors appear in 240 responses. The last ask and tell sentences, Susie asks, tells Harry to jump, also caused little difficulty: only one child out of the 24 Ss failed to choose the goal NP to act out the infinitive to jump. So the major interest devolves on which actor was chosen to carry out the complement verb action in the ask and tell sentences which lacked specified goal NPs.

The results oppose the Situational Role Theory stated above. The Ss obviously had the dolls talk to one another in acting out the sentences. The speaker always faced the other doll, for example. Nevertheless, the Ss had virtually no difficulty in choosing correct complement actors for the ask sentneces, and some difficulty in choosing correct actors for the tell sentences. Out of 120 responses to the goalless ask sentences, just one child once (out of ten trials) chose the incorrect complement verb actor. Sentences like John asks to sit down were performed with an accuracy of .99. Interestingly, the tapes show that many of the Ss chose the correct complement actors for ask even though they did not seem to interpret ask as a request. Six of the 12 Group I Ss had their dolls talk in the following way in performing the ask sentences: "I'm gonna drive," "I'm gonna sit down." The sentences resembled first person commands or orders, rather than more appropriate request forms like "Can I drive?" or "I want to drive," forms which predominated in the other six Group I Ss. So the correct understanding of complement subject was somewhat independent of the S's knowing the proper semantics for ask.

Results for the tell sentences were more diverse. With tell, it was correct to have the lexically unspecified doll that was spoken to carry out the complement action. Eight of the twelve Group II Ss responded correctly nine or ten times in the ten trials. Three Ss responded correctly only once or not at all. Just one S seemed to waver, responding correctly four times and incorrectly six times. So tell, for which correct performance was consistent with the Situational Role Theory, gave interpretive problems to four of the Ss. Again semantic problems with tell itself do not seem to have been crucial. All of the Group II Ss treated the tell sentences like imperatives, as opposed, e.g., to requests. The four Ss who had difficulties all used

first person imperatives like "I'm gonna drive."

Younger Ss would probably have even more trouble with goalless tell sentences. Children probably initially acquire the very useful generalization that if there is only one lexically specified main clause actor, that actor supplies the reference for the subjectless complement infinitive. They would then have to learn with experience that tell obligatorily takes a deep structure goal NP in some grammatical context, and so learn to supply the goal in their interpretation even when it is not given in the sentence.

General Discussion

The results found here have some interest for theoretical accounts of language development. The results of Experiment I indicate that young children, despite their failure with the verb promise, do not seem to operate with a Surface Structure MDP in their interpretation of infinitival complement structures. The results of Experiment II indicate the failure of a theory which takes into account only relations of actors implied situationally by the main clause ver. It seems reasonable to hypothesize that as children hear sentences with subjectless infinitive complements, they understand the intended reference of the infinitive verb through use of their understanding of the non-linguistic context. They then relate this intended complement reference to the semantic role relations among the lexically specified main clause deep structure NPs.

In view of the large range of other linguistic possibilities that remain for describing the results obtained in these studies (Rosenbaum, 1967; Perlmutter, 1971; Postal, 1970), the formulation offered here can clearly be sharpened or contradicted by further study. But if the broad outline above is correct, then children's hypotheses about the reference of subjectless complements implicate syntactic, semantic, and contextual factors in a complicated fashion, an outcome which in itself says much about the natural hypotheses children bring to bear on acquiring their native languages.

References

Bever, T. G. The cognitive basis for linguistic structures. In J.R. Hayes, (Ed.), Cognition and the development of language. New York: Wiley, 1970. Pp. 279-362.

Braine, M.D.S. On two types of models of the internalization of grammars. In D.I. Slobin (Ed.), The ontogenesis of grammar. New York: Academic Press, 1971. Pp. 153-186.

Chomsky, C.S. The acquisition of language from five to ten. Cambridge, Massachusetts: MIT Press, 1969.

Dale, P.S. Language development. Hinsdale, Ill.: The Dryden Press, 1972.

Fillmore, C.J. The case for case. In E. Bach & R.T. Harms (Eds.), Universals in linguistic theory. New York: Holt, 1968. Pp 1-90.

Fillmore, C. Types of lexical information. In D.D. Steinberg & L.A. Jakobovits (Eds.) Semanitcs. An interdisciplinary reader in philoscphy, linguistics, and psychology. Cambridge: The University Press, 1971. Pp. 370-392.

Fraser, C., Bellugi, U., & Brown, R. Control of grammar in imitation, comprehension, and production. Journal of Verbal Learning and Verbal Behavior, 1963, 2, 121-135.

Gruber, J. Studies in Lexical Relations. Unpublished doctoral dissertation, MIT, 1965.

Jackendoff, R. Semantic Interpretation in Generative Grammar. Cambridge, Mass.: MIT Press. 1972.

Owen, P. Methodological problems in testing children's comprehension of complement subjects. Unpublished honors thesis, University of Minnesota, 1973.

Perlmutter, D. Deep and surface structure constraints in syntax. New York: Holt, Rinehart and Winston, Inc., 1971.

Postal, P.M. On coreferential complement subject deletion. Linguistic Inquiry, 1970, 1, 439-500.

Rosenbaum, P.S. The grammar of English predicate complement constructions. Cambridge, Mass.: MIT Press, 1967.

Footnotes

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Michael P. Maratsos

Institute of Child Development

University of Minnesota

Minneapolis, Minnesota 55455

2. Chomsky's original account actually discussed referential control in terms of both surface structure distance relations and main clause grammatical relations such as subject and grammatical object. Her account implied, however, that the two descriptions gave largely equivalent results, as they did in the case of her stimulus sentences; and her use of the Minimal Distance Principle terminology implied stress on the surface structure distance account. Writers since then have clearly taken the surface structure account to be the one which follows from her data. For example, Dale (1972) writes, "The general rule in English is the Minimal Distance Principle (MDP): the subject of a complement verb (a verb with to) is the NP closest to it." (Dale, P. 100).

It is probaby no exaggeration to say that the surfact structure distance account is the one employed universally in language development textbooks, articles, and reviews, despite the appropriate ambiguity of Chomsky's original formulation.